



## **Growth parameter estimates of *Listeria monocytogenes* in cooked chicken: effect of preparation of inoculum**

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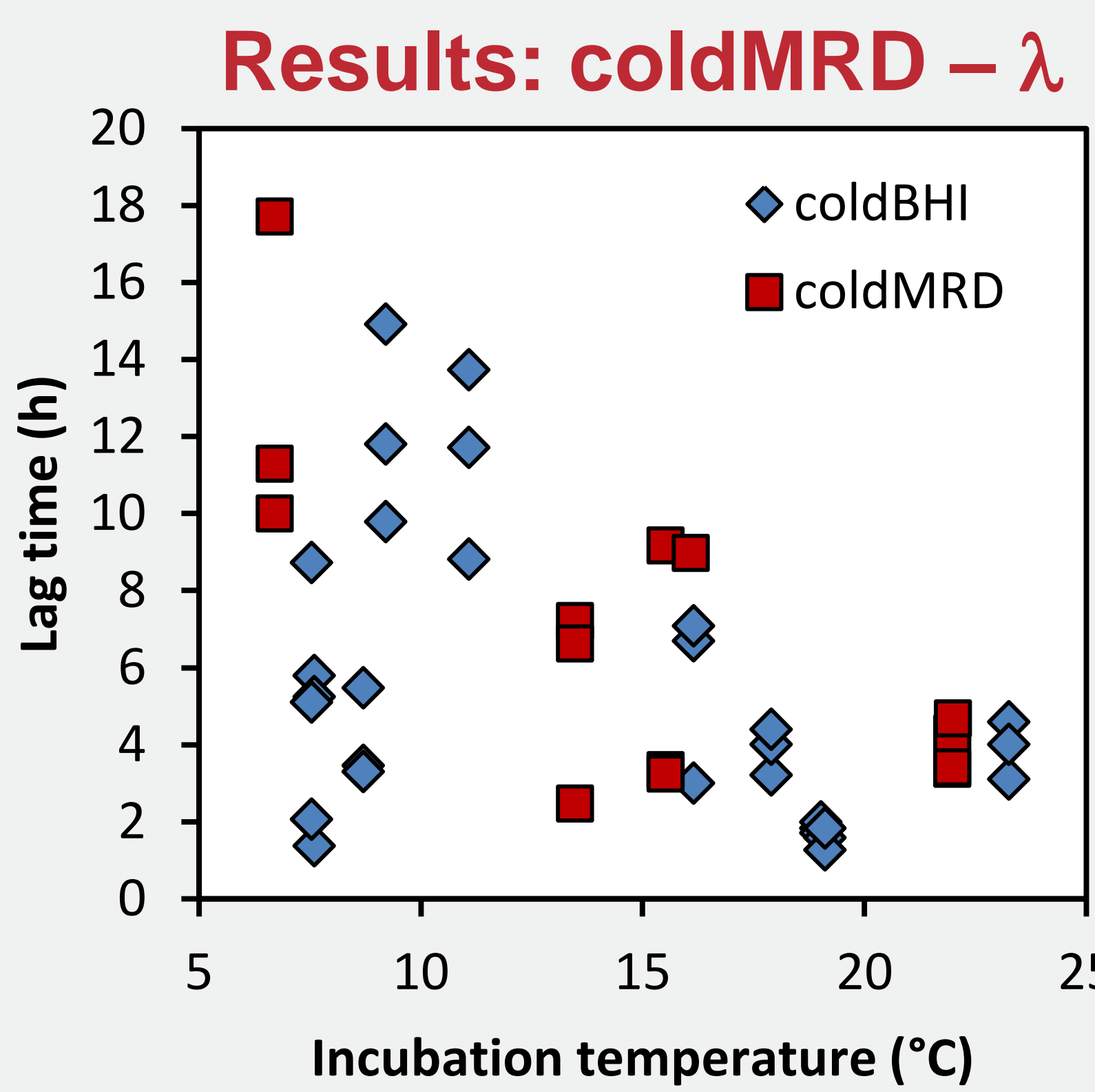
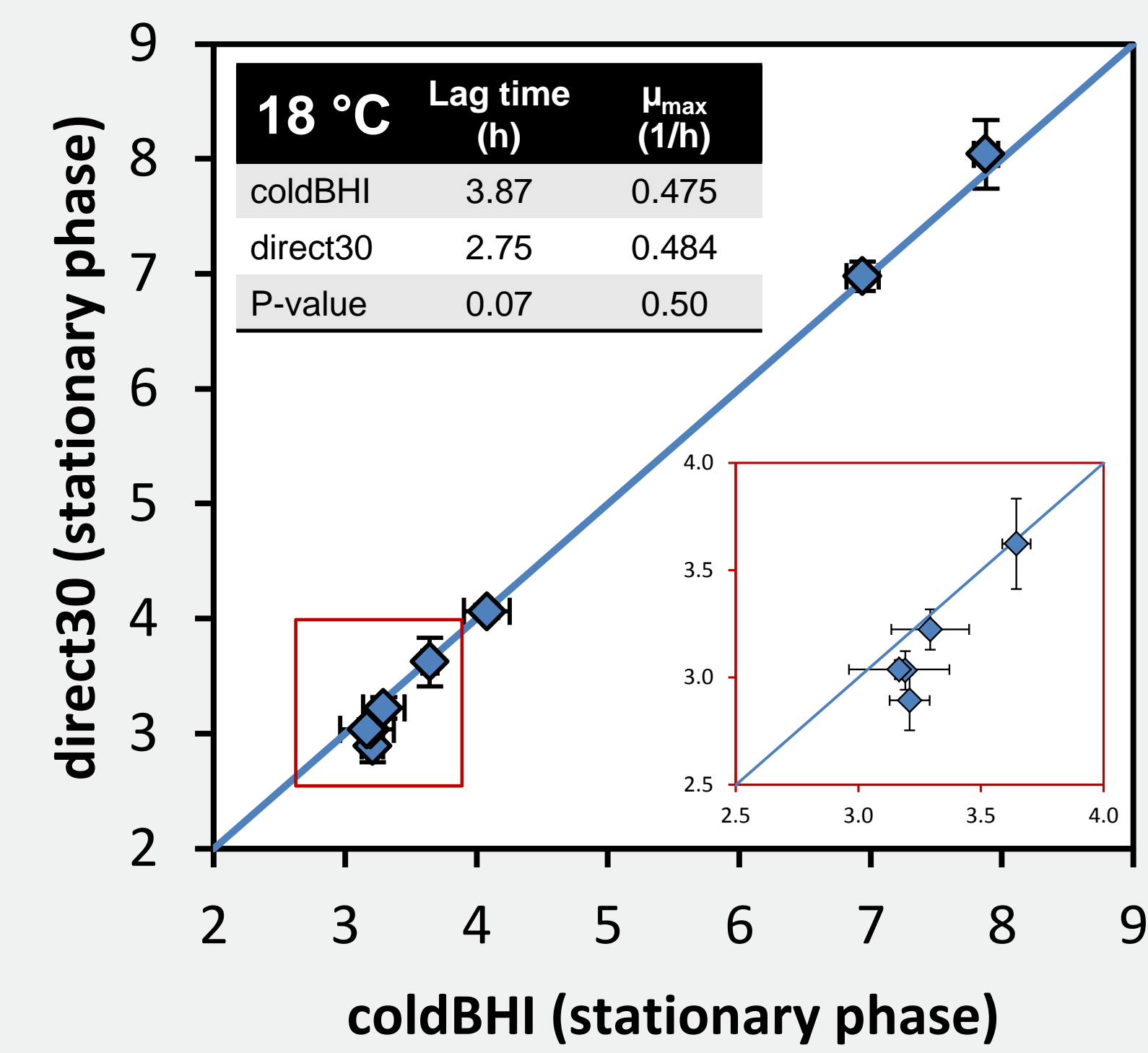
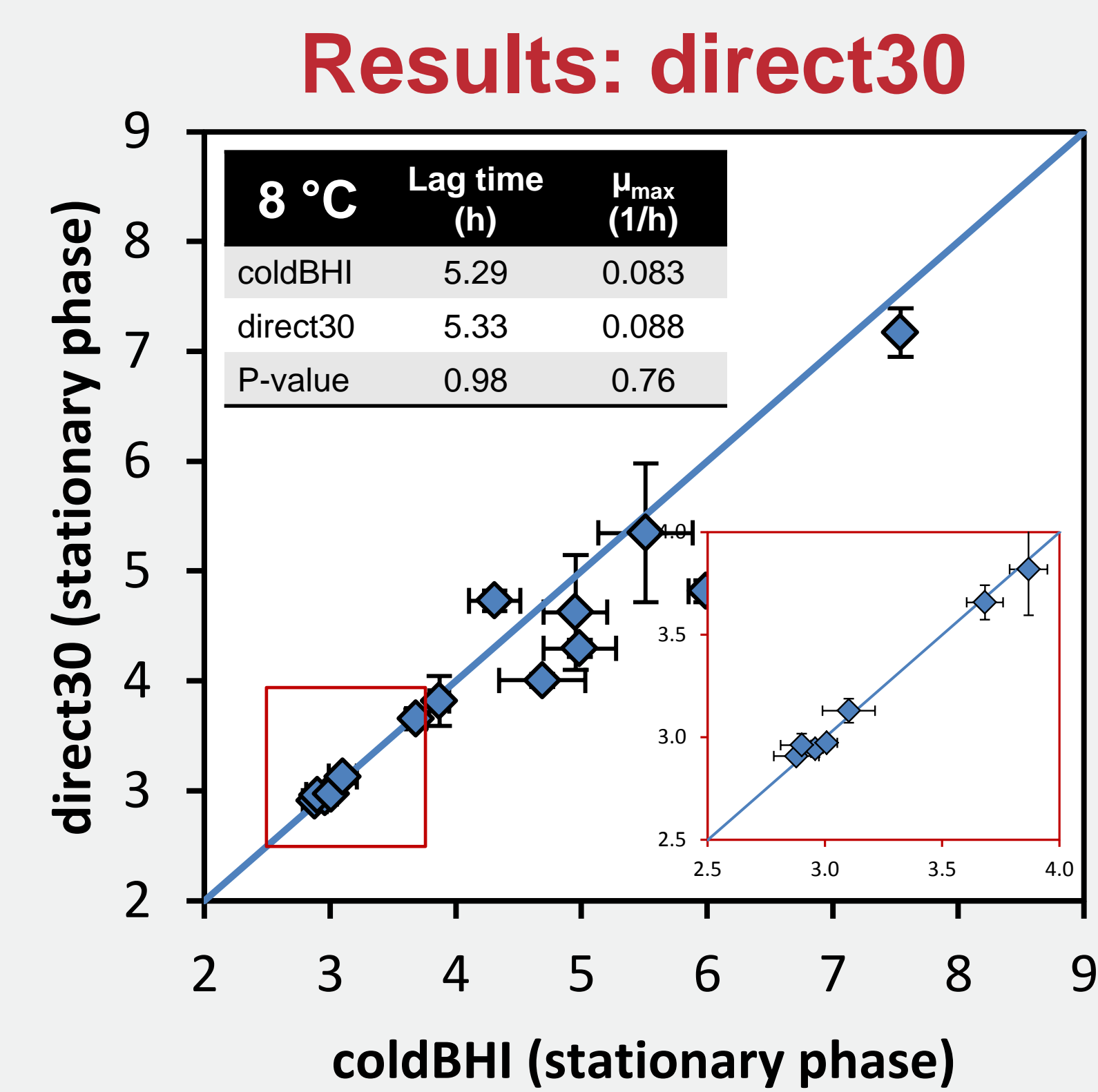
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# Growth parameter estimates of *Listeria monocytogenes* in cooked chicken: effect of preparation of inoculum

Tina Birk, Sussi Smith Ottosen and Tina Beck Hansen<sup>a</sup>

## Objective

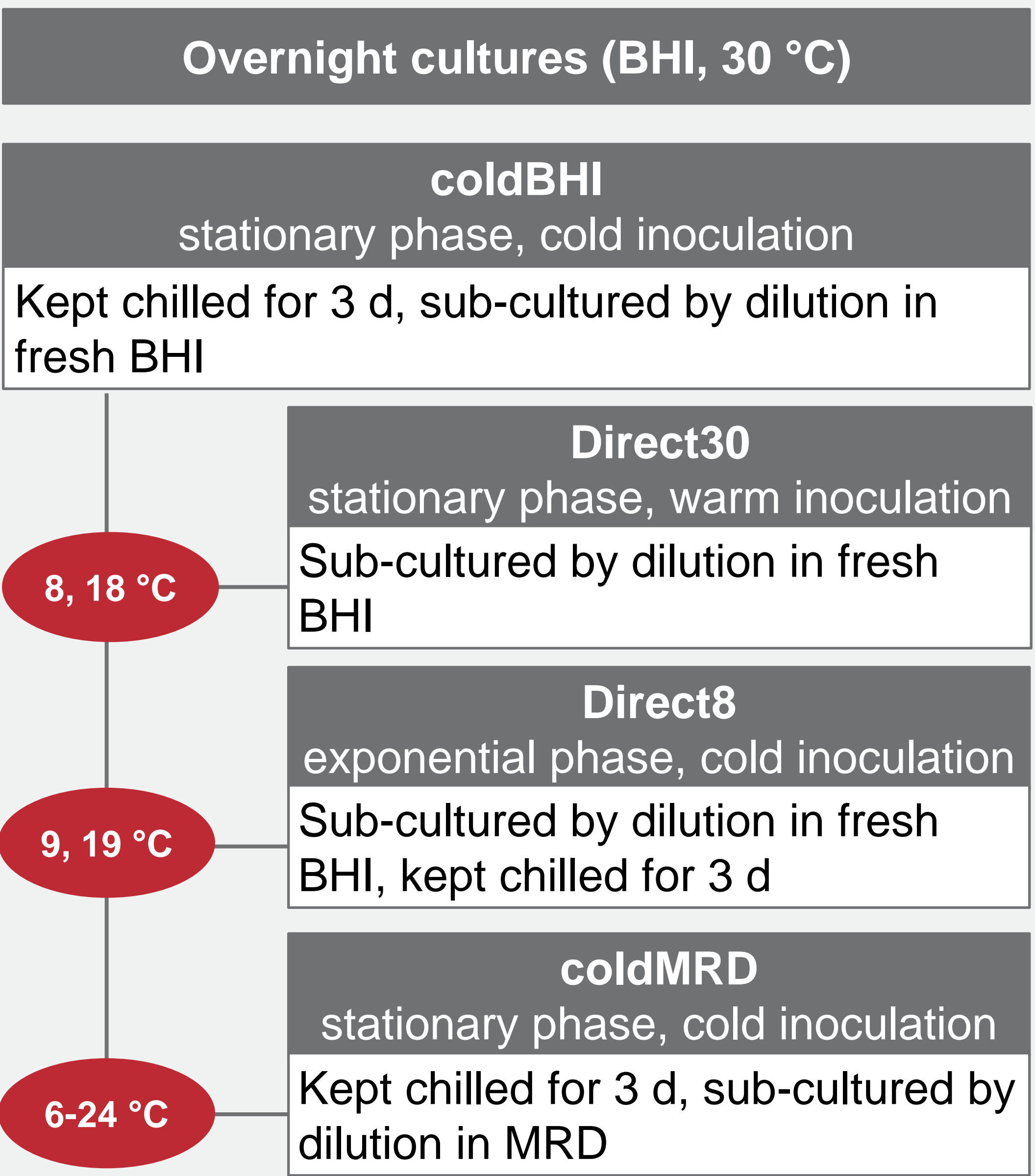
Growth curves, and estimates of lag times and growth rates, for *Listeria monocytogenes* on slices of sous-vide cooked chicken breast were compared for four inoculum preparation procedures; coldBHI (control procedure), direct30 and direct8 (t-test against the control), and coldMRD (graphical comparison of lag times,  $\lambda$ , and growth rates,  $\mu_{max}$ , with the control). Inoculum volumes of  $0.44 \pm 0.11$  % were used.



**Conclusion**

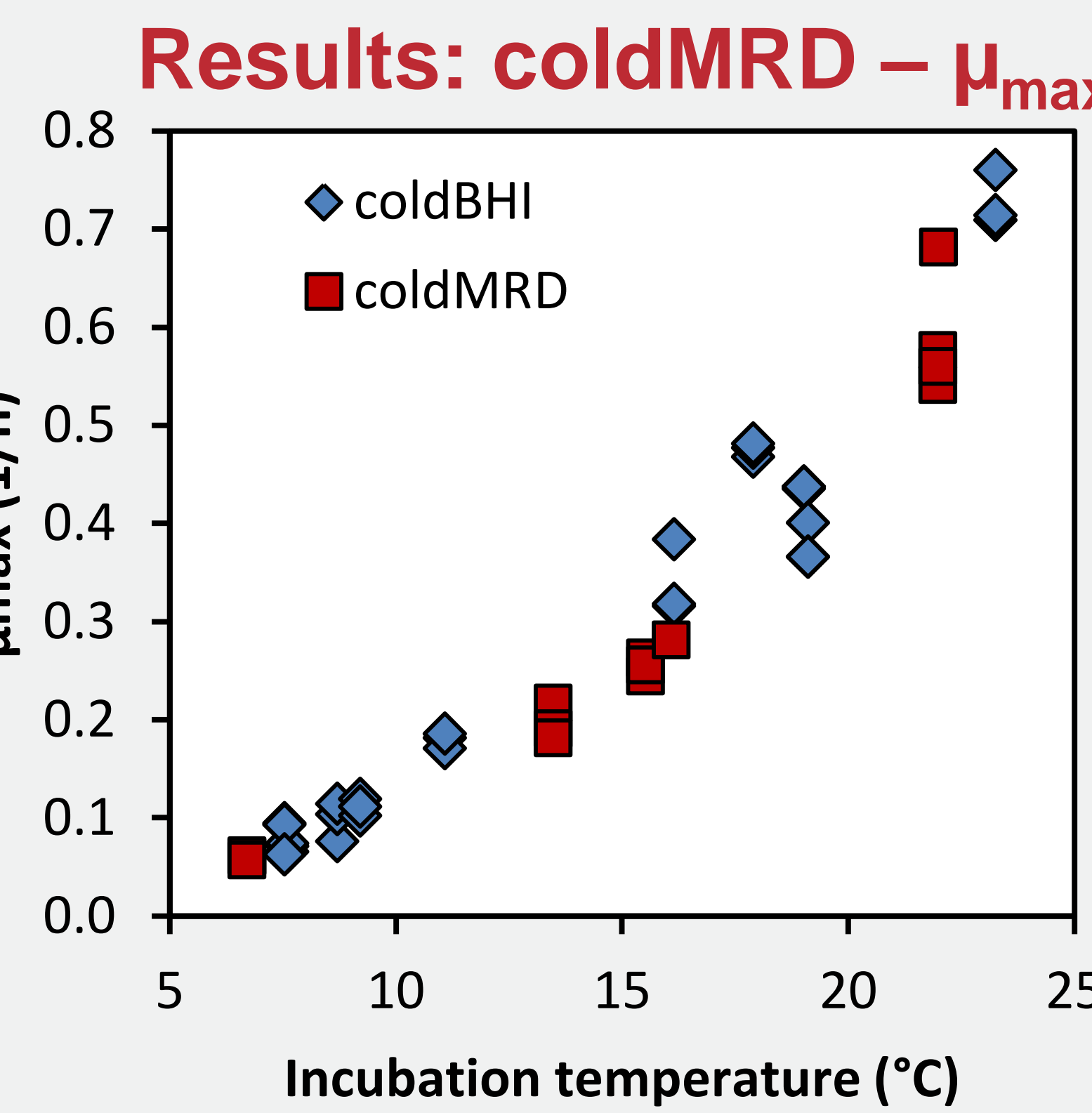
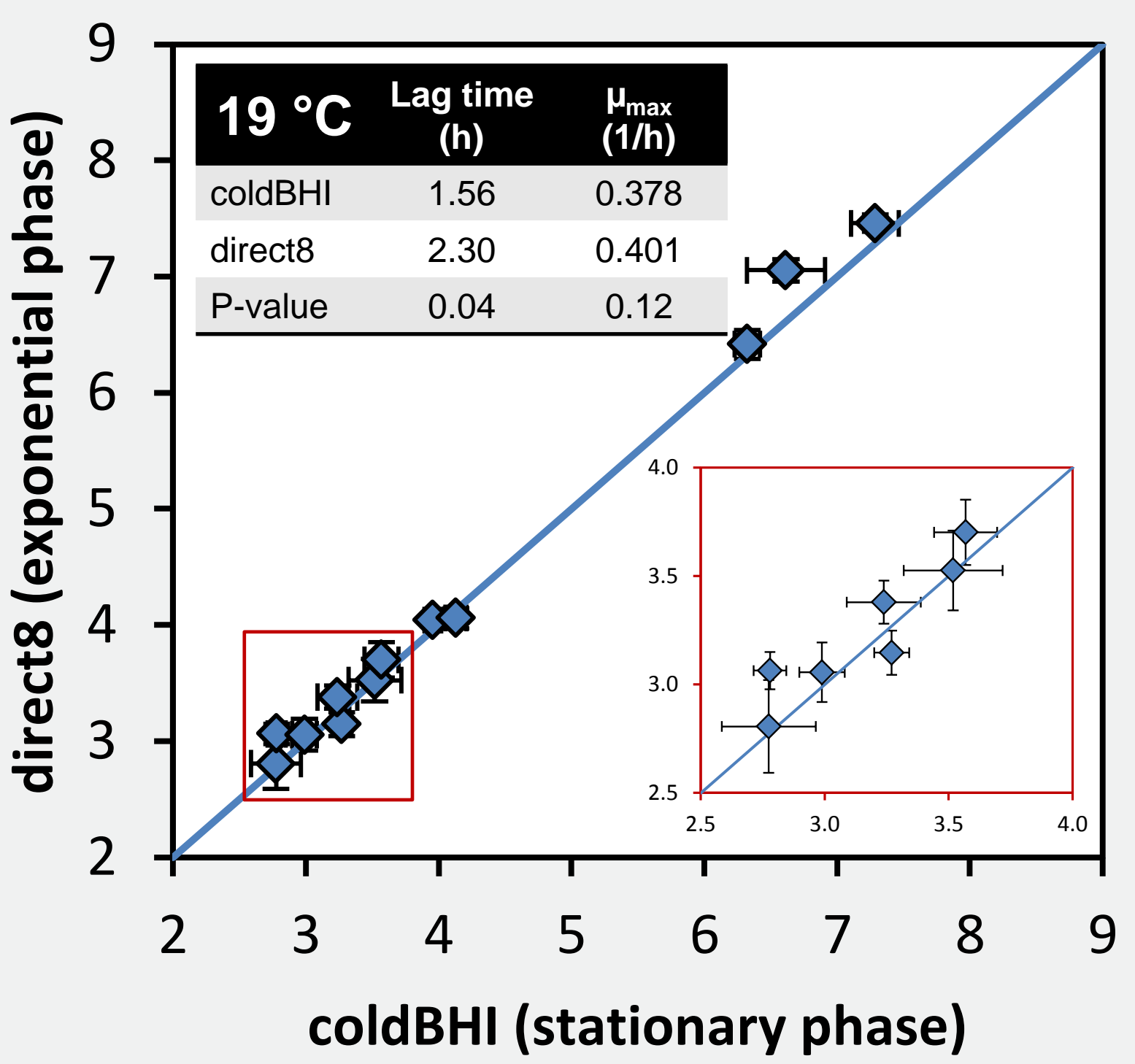
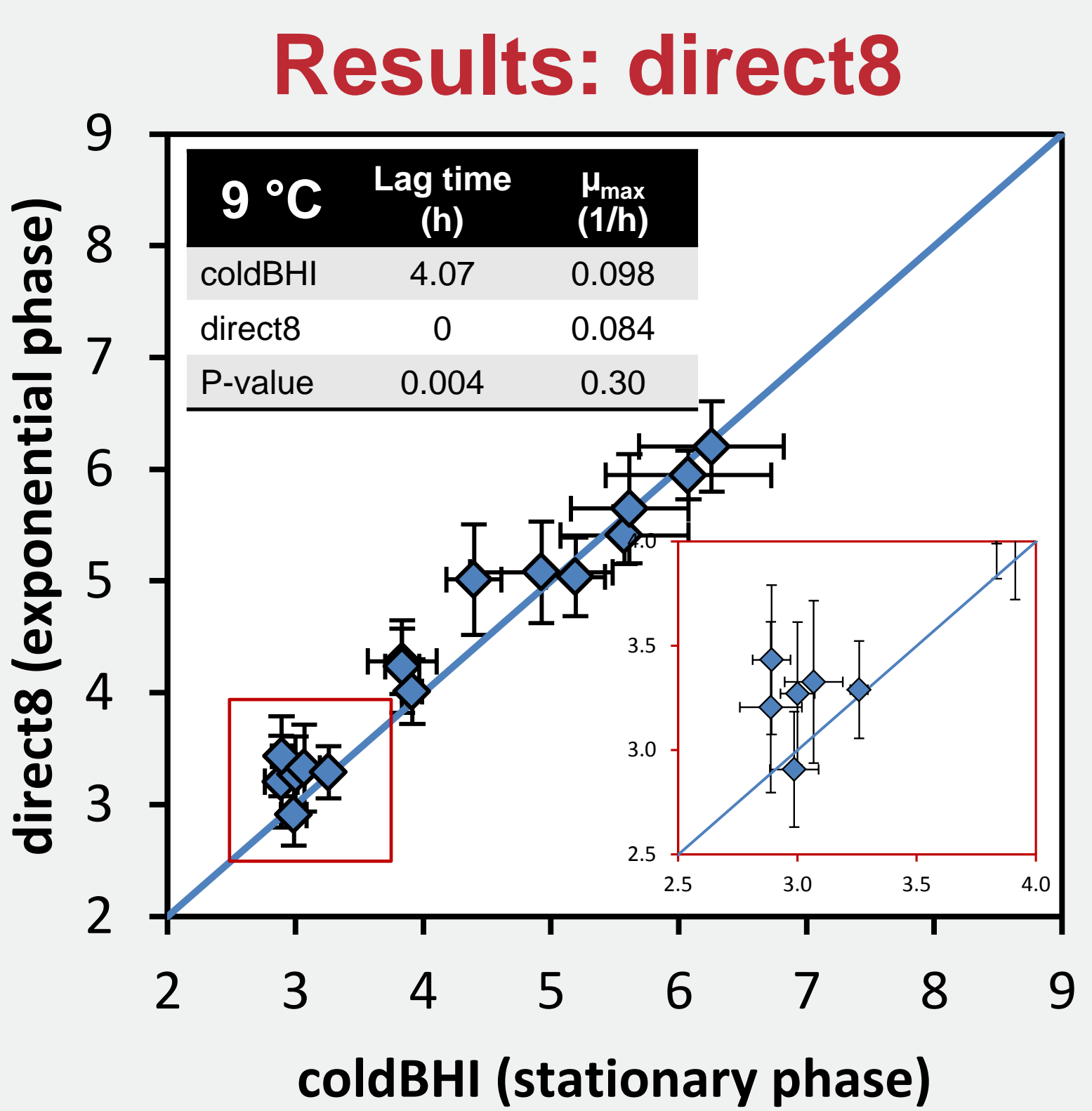
Even with inoculation volumes lower than 1%, fitted growth parameter estimates were affected by the preparation of inoculum.

- $\lambda$  was mostly affected by growth phase then temperature shifts and lastly presence of nutrients, such as glucose, in the inoculum
- $\mu_{max}$  was only affected by presence of nutrients



**Results: cross-validation**

Procedure	$\mu_{max}$ model	Bias factor	Accuracy factor
coldBHI	$\sqrt{\mu_{max}} = 0.0350 \cdot (T + 0.37)$	1.12	1.14
coldMRD	$\sqrt{\mu_{max}} = 0.0344 \cdot (T - 0.21)$	0.88	1.17



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